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"While the course has been developed simultaneously with Webber and Plant's *Introductory Mathematical Analysis* and there is some material common to the two courses, yet they are addressed to distinctly different groups of students.

"A knowledge of elementary algebra and geometry is presupposed. Students with little or no knowledge of formal geometry have succeeded with the course.

"The course has been given by lecture or in mimeograph form to classes during the past several years. . . ."

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ARTICLES IN CURRENT PERIODICALS.

AMERICAN MACHINIST, New York, volume 52, March 25, 1920: "War on the decimal system" by F. Franz, 682–684; "Octaval notation and the measurement of binary inch fractions" by A. Watkins, 685–688.

ANNALS OF MATHEMATICS, second series, volume 21, no. 3, March, 1920: "A Green's theorem in terms of Lebesgue integrals" by H. E. Bray, 141–156; "Bilinear operations generating all operations rational in a domain Ω" by N. Wiener, 157–165; "On the enumeration of proper and improper representations in homogeneous forms" by E. T. Bell, 166–179; "A proof of Jordan's theorem about a simple closed curve" by J. W. Alexander, 180–184; "Linear order in three dimensional Euclidean and double elliptic spaces" by G. H. Hallett, Jr., 185–202; "Further properties of the general integral" by P. J. Daniell, 203–220; "Summability of double series" by L. L. Smail, 221–223; "The fundamental theorem of celestial mechanics" by J. L. Coolidge, 224.

BULLETIN OF THE AMERICAN MATHEMATICAL SOCIETY, volume 26, no. 7, April, 1920: "Parametric equations of the path of a projectile when the air resistance varies as the nth power of the velocity" by F. H. Safford, 289–293; "Infinite systems of functions" by W. E. Milne, 294–300; "On certain related functional equations" by W. H. Wilson, 300–312; "The equation $ds^2 = dx^2 + dy^2 + dz^2$" by E. T. Bell, 312–318; "A property of permutation groups analogous to multiple transitivity" by W. B. Carver and Mrs. Estella F. King, 319–322; "College algebras" by Elizabeth B. Cowley, 323–329 [review of E. B. Skinner's *College Algebra* (New York, Macmillan, 1918), of W. C. Brenke's *Advanced Algebra* (New York, Century, 1917) and of Helen A. Merrill and Clara E. Smith's *A First Course in Higher Algebra* (New York, Macmillan, 1917)]; "Notes," 329–333; "New publications," 334–336.

CANADIAN CHARTERED ACCOUNTANT, Toronto, Ontario, volume 9, no. 4, April, 1920: "Bond schedules for the amortization of a premium or accumulation of a discount" by S. D. Killam, 231–236.

EDUCATIONAL REVIEW, volume 59, no. 4, April, 1920: "Junior high school mathematics" by T. Lindquist, 296–303. [Quotation: "Students who have completed a satisfactory junior high school course in mathematics should be able during their senior high school to complete plane and solid geometry in one year, physics in one year, and algebra III together with trigonometry or college algebra the final year."]

ENGINEERING AND CONTRACTING, Chicago, volume 53, February 4, 1920: "Instruction and tables for reducing labor in curve computation" by J. H. Lilly, 137–138.

ENGINEERING NEWS-RECORD, New York, volume 84, February 19, 1920: "Solution of compound curve problems" by L. R. Brown, 378–379 [Reprinted from *Electric Railway Journal*, Jan. 17, 1920]—March 4: Table for converting from scale 1 in. = 100 ft. in plotting curves," 486.

INDUSTRIAL MANAGEMENT, volume 59, no. 4, April, 1920: "The mathematics of labor turnover" by C. G. Barth, 315–318.

INTERNATIONAL MARINE ENGINEERING, New York, volume 25, March, 1920: "Pointing off when using the slide rule" by B. W. Manier, 228–229.

JOURNAL OF EDUCATIONAL RESEARCH, University of Illinois, volume 1, no. 3, March, 1920: "A shorter method for computing the coefficient of correlation" by L. P. Ayres, 216–221; "A bibliography of standard tests for the high school" by W. S. Monroe, 240–242 [VIII. Mathematics].

MACHINERY, New York, volume 26, January, 1920: "Development of time slide-rule" by J. B. Conway, 453–454; "To draw a circle tangent to three given circles" by C. N. Pickworth, 459–460—March: "Computation of diameters and circumferences of circles" by E. T. Meehan, 656.

MATHEMATICS TEACHER, volume 12, no. 3, March, 1920: "Association of Mathematics Teachers of New Jersey: Report of the Committee of First-Year High-School Mathematics," 89–100; "Proposed syllabus in algebra" by C. F. Wheelock, 101–114; "Mathematics for the physiologist and physician" by H. B. Williams, 115–123 [Paper read before the Mathematical Association of America, January 1, 1920]; "Love mathematical" by R. C. Gillies, 124–125; "New Books," 126–127.

MIND, new series, no. 114, April, 1920: Review by C. D. [Broad of A. N. Whitehead's *The Principles of Natural Knowledge* (Cambridge, 1919), 216–231.

MONIST, volume 30, no. 2, April, 1920: "Philip Bertrand Jourdain," 161–182 + frontispiece portrait [Nearly half of this appreciation is from "memories" written by Jourdain's youngest sister Milly; the article concludes with a list of thirty-one articles written for the *Monist,* 1908–1920]; "Elliptic orbits and the growth of the third law of Newton" by P. E. B. Jourdain, 183–198; "Newton's theorems on the attraction of spheres" by P. E. B. Jourdain, 199–202; "Leonardo da Vinci (Born 1452. Died 1519)" by M. Jourdain, 280–291.

PHILOSOPHICAL MAGAZINE, sixth series, volume 39, April, 1920: "Applications of quaternions to the theory of relativity" by H. T. Flint, 439–449—May: "On the advance of the perihelion of a planet, and the path of a ray of light in the gravitation field of the sun" by A. Anderson, 626–628; Review of A. N. Whitehead's *An Enquiry concerning the Principles of Natural Knowledge* (Cambridge, 1919), 629–631 [Last paragraphs: "It will be seen then that this book is simply invaluable to anyone who wishes to bring himself into line with the new principle of relativity, whether his interest be scientific in the narrow sense or philosophical in the wide sense.

"John Stuart Mill tells us in his Autobiography that he was at times actually depressed by the thought that musical chords though practically infinite in the number of combinations they admitted were yet in reality finite and exhaustible. Our feeling as we close Professor Whitehead's book is one almost of elation at the thought of how little we know, and how uncertain is the little we think we know, when we form our concepts of the framework of infinite Nature."]

REVUE DE L'ENSEIGNEMENT DES SCIENCES, volume 13, nos. 127–130, July–December, 1919: "Enveloppes des courbes et des surfaces à un paramètre" by F. Meyer, 177–186; "Sur les fonctions linéairement distinctes" by P. Montel, 186–190; "Sur la surface du triangle" by P. Montel, 190–197; "Sur l'équation en nombres entiers $a^2 + b^2 = c^2$" by A. Lévy, 197–211; "Limite de $(1 + 1/x)^x$ pour x infini" by R. Dontot, 211–214; "Questions de forme" by J. Juhel-Rénoy, 215–218; "Problèmes de mathématiques donnés au baccalauréat en Octobre 1918," 218–223, 229–234; "Examens et Concours de 1919: Agrégation des sciences mathématiques et Ecole Normale Supérieure," 241–251.

REVUE DE MATHÉMATIQUES SPÉCIALES, volume 13, no. 1, October, 1919: "Sur la somme des puissances semblables des n premiers nombres entiers" by R. Dontot, 1–4; Solutions of questions in algebra, analytic geometry, analysis, and mechanics, 4–10, 17–22; Questions in the written and oral examinations for the Ecole Polytechnique, 1919, 10–15; Ecole Centrale Concours de 1919, 23–24—No. 2, November: "Sur la somme des puissances semblables des n premiers nombres entiers" (suite) by R. Dontot, 25–28; Problems proposed and solved in examinations for the Ecole des Ponts et Chaussées, Ecole Polytechnique, Ecole Centrale, etc., 29–56—No. 3, December: "Sections planes et sphériques du tore" by A. Sainte-Laguë, 57–67; Problems and Solutions, 60–80—No. 4, January, 1920: "Sections planes et sphériques du tore" (fin) by A. Sainte-Laguë, 81–83; Problems and Solutions, 83–104—February, 1920: "Enveloppe des droites obtenus en faisant tourner d'un angle constant, α, les tangentes à une courbe plane autour de leurs points de contact" by Jean Mourret, 105–106; Problems and solutions, 107–128.

REVUE DU MOIS, volume 15, January, 1920: "Radioactivité, probabilité et déterminisme" by E. Borel, 33–40— March: "La réforme de l'enseignement et les anciens combattants" by E. Borel, 225—227.

REVUE SCIENTIFIQUE, April 10, 1920: "La vie et l'oeuvre de Lord Kelvin" by E. Picard, 193–207.

SCHOOL AND SOCIETY, volume 11, March 20, 1920: "The National Committee on Mathematical Requirements," 343–344—April 17, 1920: "The Bode theory of transfer applied to the teaching of mathematics" by E. B. Lytle, 457–462.

SCIENCE PROGRESS, volume 14, April, 1920: Recent advances in pure mathematics, by Dorothy M. Wrinch, 536–543; Recent advances in applied mathematics, by S. Brodetsky, 543–550; "Octaval notation for inch fractions," 646–647 [Quotation: "A rule for engineer's precision measurements has just been issued which embodies a proposal for a logical notation for the inch binary fractions. Such notation is not new, but for the first time is put into a practical form for the workshop. . . . In place of the radix of 10 used for decimal notation, this rule . . . uses a radix of 8. Just as in decimals $0.234 = \frac{2}{10} + \frac{3}{10^2} + \frac{4}{10^3} \ldots$ so in octavals $0_0234 = \frac{2}{8} + \frac{3}{8^2} + \frac{4}{8^3}$;"] "Logic and mathematics" by the late P. E. B. Jourdain [review of J. B. Shaw's *Lectures on the Philosophy of Mathematics* (Chicago and London, 1918) and of B. Russell's *An Introduction to Mathematical Philosophy* (London and New York), 669–674; Reviews by Dorothy Wrinch of H. Lamb's *An Elementary Course of Infinitesimal Calculus* (3d edition, Cambridge, 1919), and of L. C. Karpinski, H. Y. Benedict, and J. W. Calhoun's *Unified Mathematics* (Boston and London, 1919), 678–679.

SCIENTIA, volume 27, no. 3, March, 1920: Review by G. Loria of H. Bateman's *Differential Equations* (London, 1918), 228–229; Review by W. J. Greenstreet of L. Huxley's *Life and Letters of Sir Joseph Dalton Hooker* (London, 1918), 236–239.—No. 4, April: Review by G. Loria of E. Bortolotti's *Italiani scopritori e promotori di teorie algebriche* (Modena, 1919), 315–317; Review by R. Morcolongo of P. Appell and S. Dautheville's *Précis de mécanique rationnelle* (2e éd., Paris, 1918), 317–318.

TECHNOLOGY REVIEW, Cambridge, Mass., volume 22, no. 2, April, 1920: "Richard Cockburn Maclaurin" by J. P. Munroe, 252–262; "Resolutions by the Alumni Council," 263–264 [regarding R. C. Maclaurin]; "The work of Professor Edward C. Pickering at the Massachusetts Institute of Technology, 1867–1877" by C. R. Cross, 277–288 [Professor Pickering was Thayer professor of physics at the Institute for the ten years preceding his appointment as professor of astronomy and director of the Harvard Observatory in 1876; he established the first physical laboratory in the United States]; "Joseph John Skinner, Died November 12, 1919" by W. T. Sedgwick, 289–290 + portrait [Professor Skinner, who was assistant professor in mathematics at M. I. T. 1896–1904, was born in Vermont in January, 1842. "From 1874 to 1881 he taught mathematics at the Sheffield Scientific School, and also some classes in physics and astronomy. One of his pupils in 1874 was the writer, whose recollections of 'Tutor Skinner' are of a man always genial and especially courteous to his students. It was in his classes that some students were for the first time in their lives treated as gentlemen and equals, and the reaction was encouraging and stimulating. On the other hand 'Tutor Skinner' did not escape chaffing in a familiar rhyme which ran:

"There was a bold tutor and he was a sinner.
His first name was Joseph, his last name was Skinner.
He wrestled the Freshmen and brought them to time,
With his tangent, co-tangent, co-secant, co-sine."]

TÔHOKU MATHEMATICAL JOURNAL, volume 17, nos. 1–2, February, 1920: "On the conservative field of force" by K. Ogura, 1–6; "A substitute for Duhamel's theorem" by G. James, 7–9; "Ueber Kriterien für Irreduzibilität ganzzahliger algebraischer Gleichungen" by M. Fujiwara, 10–17; "On the law of errors in the space of p dimensions" by A. Guldberg, 18–23; "Aeronautical photogrammetry with an appendix on reconnoitring photogrammetry" [in Japanese] by T. Iwat-uki, 24–63; "On a certain transcendental integral function in the theory of interpolation" by K. Ogura, 64–72; "Sur les polygones podaires d'un polygone plan donné" by V. Thébault, 73–83; "On the converse of the theorem of Scheeffer's" by Y. Uchida, 84; "Proof of the theorems due to Messrs. Kojima and Okada" [in Japanese] by M. Watanabe, 85–87 "Groups of order g containing $(g/2) - 1$ involutions" by G. A. Miller, 88–102; "On some methods of construction in elementary geometry of three dimensions" by K. Yanagihara, 103–108; "On the nature of the integrals of a certain linear differential equation" by K. Ôishi, 109–117; "Sur des points rémarquables du triangle" by V. Thébault, 118–122; "Remarks on the note 'On the Fourier constants'" by M. Plancherel and K. Ogura, 123–128; "On the theory of interpolation" by K. Ogura, 129–145.

UNIVERSITY BULLETIN, LOUISIANA STATE UNIVERSITY, new series, volume 12, no. 3: March, 1920: "The mathematical process and some of its disciplines" by S. T. Sanders, 31 pp.